United States Department of Agriculture

Deadman Corners

Vegetation Management Project

Scoping Document

Forest Service

Allegheny National Forest

Forest County Pennsylvania

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Cover photo: West Branch Bluejay Creek, photo taken by Dan Tollini, Wildlife Biologist

Who is proposing the project?

The Forest Service, U. S. Department of Agriculture, Allegheny National Forest, Marienville Ranger District is initiating an environmental analysis for the proposed Deadman Corners Vegetation Management Project[1] pursuant to the National Environmental Policy Act of 1969.

What are we proposing to do?

We are proposing vegetation management and other activities on National Forest System lands within the Deadman Corners project area to achieve a healthy and resilient ecosystem with a diversity of desired forest trees and to diminish the risks and consequences of forest health threats. This project implements the Allegheny National Forest Land and Resource Management Plan (or Forest Plan). The project is subject to pre-decisional objection consistent with the Consolidated Appropriations Act of 2012 (P.L. 112-74) as implemented by subparts A and B of 36 CFR Part 218.

Where is the project located?

The Deadman Corners project area includes National Forest System lands in Compartments 651, 652, 653, 675, 676, 685, 686, 687, 688 and 689 and Warrants Godfrey, Charles Fox, 2736, 2812, 2850, 2878, 2882, 2916, 2960, 2980, 2993, 2995, 3186, 3187, 3188, 3188, 3189, 3192, 3193, 3802, 3803, and 4545 in Howe Township, Forest County, Pennsylvania. The project area is generally located north of Marienville, Pennsylvania and is located within the Upper Tionesta Creek (primarily), South Branch Tionesta Creek, and Spring Creek watersheds. The project area consists of approximately 15,218 acres with approximately 4,467 acres in Management Area 2.2 (late structural linkages) and 10,751 in Management Area 3.0 (even-aged management).

What happens next?

An environmental assessment will be prepared under the National Environmental Policy Act, and your comments will help determine what the next steps are for this project. Depending on the input received, we may either:

1. **Request additional comments on the environmental assessment before releasing a draft or final decision.** An additional comment period would be provided, and there would be an opportunity to object to our draft decision before a final decision is made.

2. **Release the environmental assessment and finding of no significant impact with a draft decision notice.** We would not provide an additional comment period, but there would be an opportunity to object to our draft decision before a final decision is made.

[1] Deadman Corners is a geographical reference to the area around the intersection of Blue Jay Road (a township road) and forest road 180. It refers to a legend, which may have some basis in history, of a grave near this location. Additional information regarding this name may be found at https://www.pa-roots.com/forest/cemetery/deadmancorners.html.

When would the project be implemented?

A decision on the Deadman Corners project is expected in 2021. Initial project activities would start within 1 to 5 years of the decision and continue over a 20-year period.

Why here and why now?

Purpose and Need

Increasing early structural habitat

The Allegheny Forest Plan identified the desired distribution of vegetation structure for the forest for the year 2020. Recently, Allegheny National Forest staff updated and recalculated the early structural condition on the forest. In January 2020, the early structural condition was 3.1 percent (15,115 early structural acres/491,239 total forested acres). While mid and late structural stages are well-represented and meeting desired conditions, stands in early structural stages are falling far short of desired conditions. This amount is less than half of the desired 2020 condition (USDA-FS 2007, page 19, Errata). Currently, approximately two percent of the project area is in the zero to 20 age class of early structural habitat.

The Forest Plan's early structural vegetation objective will be met or exceeded once all our proposed and recently approved projects are implemented. However, full implementation takes time due to a reliance on natural seedling establishment for regeneration. Since most of the forest does not already contain adequate advanced tree regeneration, we rely on a sequence of treatments to create growing conditions conducive for seedling establishment. Final harvest treatments can only occur once adequate tree regeneration is established. As a result, there can sometimes be a five, ten, or even twenty-year lag between signing a project decision and completing all final harvests. As early structural vegetation is constantly developing into mid-structural vegetation, it is important to continue creating early structural vegetation in order to sustain this component over time. This proposal would create an additional 3,477 acres (23 percent of the National Forest System lands within the project area) of early structural habitat and would help maintain the overall age class distribution described in the Forest Plan desired condition.

Creating suitable conditions for the establishment of desired tree seedlings

Several challenges exist for establishing desired tree seedlings on the Allegheny National Forest. These include dense shade cast by overstory, midstory, and interfering understory vegetation, preferential browsing by deer, periodic seed crops, and variable seed viability, and in some cases, the decline of potential seed trees. Desired tree seedlings do not develop in sufficient quantities on the Allegheny National Forest without intensive forest management. Interfering understory vegetation frequently outcompetes tree seedlings because of decades of selective deer browsing (Horsley, Stout, and deCalesta 2003). Forest management creates suitable conditions for the establishment and development of desired tree seedlings to maintain important ecological structure, function, and processes.

Addressing the decline of beech, black cherry, white ash, and hemlock

This project is needed to address present and potential future decline of American beech, black cherry, white ash, and eastern hemlock due to non-native and native insects and diseases and other factors discussed below. If no action is taken, forest stocking levels may be reduced and could potentially result in areas with few seed trees, with forest understories dominated by interfering vegetation, including beech brush, striped maple, and ferns. In some areas, few to no seed trees would remain. Stands with reduced stocking due to insects and diseases are more vulnerable to damage from windthrow, storms, and other general injury to tree crowns.

Vegetation management can affect forest health through a variety of overstory and understory treatments. Declining, mature, or poorly stocked stands can be regenerated to vigorous well-stocked young forest stands through a combination of timber harvest and reforestation treatments. Managing and regenerating declining stands now would promote natural regeneration of a diversity of desired trees. It would sustain healthy, well-stocked forested stands over the long-term. This project is designed to address project area forest health concerns by regenerating stands before natural regeneration opportunities are further reduced. Deferring action of these stands would likely increase the difficulty of successfully restocking them with diverse tree seedlings that would result in a more resilient future forest.

Providing a diversity of structural stages, age classes, and forest types

Forest Plan desired conditions include providing a diversity of vegetative structural stages, age classes, and forest types across the landscape within the context of multiple use management. The purpose of this project is to sustain a desirable mix of tree species to ensure a healthy, diverse, and resilient forest. The dominant forest types on the Allegheny National Forest are mixed upland and Allegheny hardwoods, primarily consisting of black cherry, red maple, black birch, and tulip-poplar. American beech, eastern hemlock, yellow birch, and cucumbertree are common associates.

The uniformity of second growth forest across the Allegheny National Forest increases vulnerability to damage from repeated natural stresses and exotic insects and diseases. Beech bark disease[2] is an introduced insect-fungus complex which has resulted in substantial American beech mortality across the Forest and in the project area. The complex, introduced from Europe, results in the death of mature American beech stems. Once mortality of mature beech stems occurs, a dense thicket of beech sprouts, or beech brush, is produced from the root stocks of the original tree. As these suckers are genetically identical to the mature beech stem that succumbed to the disease complex, they are also susceptible to the disease and will succumb to the disease complex in the next couple of decades. The dense regeneration of beech within the understory of infested stands prevents the establishment of other tree seedlings and creates a virtual monoculture that lacks the benefits of natural forest biodiversity (Forrester and others. 2003; Hane 2003; Latty and others 2003).

In addition to mortality of beech, the health and abundance of white ash and eastern hemlock is a concern on the Forest. Emerald ash borer[3] is responsible for the rapid mortality of millions of ash trees across their range in the eastern United States and was detected on the Allegheny National Forest in 2013. The project area contains few ash trees and most of these trees were infested with emerald ash borer and have died. Hemlock woolly adelgid[4] was also confirmed on the Forest in 2013. It is much slower spreading than emerald ash borer but is expected to similarly result in high mortality levels to eastern hemlock beginning in the coming decade.

Black cherry crown health has been declining in many areas on the Allegheny National Forest. The reasons for this decline in crown health are not entirely clear, but it is thought that it is linked to several interacting factors including insect defoliations, changing soil nutrient status, and potentially changing climate and weather patterns. Recent monitoring conducted on the Allegheny National Forest identified decreases in black cherry crown health and observed mortality on the Allegheny National Forest and on the Allegheny Plateau (Long and others, personal communication 2015 unpublished; PA Bureau of Forestry 2015 unpublished). Specifically, the proportion of standing dead black cherry stems on 97 intensive forest health monitoring plots containing black cherry on the Allegheny National Forest has increased from less than 10 percent in the 1998–2001 measurement cycle to more than 22 percent in the

[2] For information on beech bark disease visit http://na.fs.fed.us/fhp/bbd/
[3] For information on emerald ash borer visit http://na.fs.fed.us/fhp/eab/
[4] For information on hemlock woolly adelgid visit http://www.na.fs.fed.us/fhp/hwa/

2014–2015 measurement cycle. Similarly, continuous forest inventory data collected on the Pennsylvania High Plateau (Allegheny National Forest region) noted an increase from around 3 percent dead black cherry stems in the 1997–2000 measurement cycle to more than 30 percent in the 2009–2013 measurement cycle.

Cherry scallop shell moth is a defoliator of black cherry, and occasionally other native cherries. Cherry scallop shell moth is a native insect to Pennsylvania and the eastern United States. Cherry scallop shell moth larvae fasten margins of leaves together and form an elongated nest, within which they feed on the upper tissues of the leaves. Once feeding is complete, the larvae will move on to construct more feeding nests. Damage to black cherry trees range from a loss of radial growth, partial crown mortality to total tree mortality, depending upon the severity (percentage of the crown) of the defoliation and the duration (how many years) of defoliation. In most cases, tree mortality associated with cherry scallop shell moth combined with other tree stressors, i.e. drought or other defoliators (Allen 1993). The Allegheny National Forest has experienced five years of cherry scallop shell moth defoliations.

Interference from non-native invasive plant species is also a threat to forest health and native plant communities. Monitoring and controlling the spread of invasive plant species is an important component of providing a healthy, sustainable forest ecosystem.

Potential old growth

A set of currently identified and mapped potential old growth areas is maintained for Management Area 3.0–Even-aged Management across the forest. As per the Forest Plan standard (page 115) for Management Area 3.0, these areas may be revaluated and adjusted during project planning. There are ten stands in Management Area 3.0, totaling 122 acres, within the Deadman Corners project area that were previously designated as potential old growth. One of the stands (651016) previously designated is proposed for treatment (shelterwood sequence) in the Deadman Corners project and if approved for treatment would be dropped from the set of potential old growth stands in Management Area 3.0.

Enhancing wildlife habitat

Our field surveys have shown changes in tree and shrub species diversity occurring in the project area because of impacts from non-native insects and disease, natural disturbances, such as wind and storm events, and selective browsing by deer. Underplanting of white pine is being proposed as a proactive step which seeks to replace conifer cover that may be lost because of eastern hemlock decline as well as an action which will increase vegetative diversity within the project area. Other proposed wildlife habitat enhancements include promoting a diversity of soft and hard-mast producing plants across the project through the planting of potential seed sources, providing nesting and roosting structures where they are lacking, and providing escape and concealment cover for a variety of wildlife species where it is lacking through the creation of brush piles.

Reducing interference from non-native invasive plant species

The project area is undergoing a variety of changing habitat conditions. Field surveys indicate that forest health, which includes all vegetation, is being affected by a variety of non-native invasive insects, disease, and mortality, natural disturbances such as wind and storm events, and selective deer browsing in some species and some places. Non-native invasive plants are quickly adapting to changing conditions and establishing themselves in areas where native vegetation had predominately existed. Both climatic and seasonal changes will occur in both the short term and long term that will also affect wildlife habitat.

Improving stream conditions

Many streams in the project area lack habitat diversity. In order to improve stream function and create aquatic habitat, large wood structures should be added to streams and floodplains within the project area.

These structures divert excess streamflow onto the floodplain which in turn increases groundwater infiltration, buffers against high flows, and decreases the risk of downstream flood damage. The structures also alter flow patterns, creating pools that provide critical resting places for fish.

Improving soil conditions and water quality

Where Forest System roads cross streams or are located within 300 feet of streams or wetlands, we are proposing road maintenance to reduce impacts to water quality. High quality road surfacing (limestone) is proposed for approximately 11.2 miles of road in areas adjacent to or near stream courses to reduce the risk of sedimentation. We are proposing to replace six in-stream culverts that are constricting flow or restricting aquatic organism passage with structures that provide for non-constricted bank full water flow and utilize or mimic the stream bed to allow aquatic organism passage. These are typically open-bottom culverts or embedded arch culverts.

Transportation

Management of the transportation system within the project area is needed to facilitate vegetation management for stands proposed for treatment. Approximately 6.7 miles of roads are proposed to be added to the Forest Service transportation system. This includes 5.5 miles of road construction that would utilize existing corridors (non-system roads) and 1.2 miles of road construction that would utilize new corridors. Approximately 1.2 miles of temporary road development using existing corridors is being proposed to facilitate proposed timber harvests and vegetation management. Forest road 223B is proposed for decommissioning (full obliteration) because the road is not needed for management, is in a poor location, and four stream crossing culverts on the road are failing or in poor condition.

What actions are we proposing to take?

Proposed Action

Even-aged silvicultural systems are being proposed in this project to meet the overall objectives and desired future condition of management area direction. Under an even-aged silvicultural system, stands are managed with harvest methods and associated reforestation treatments that regenerate trees of a single age class at the time of regeneration harvest. In all cases, areas managed using even-aged systems retain trees that provide ecological function and structure inherited from past ecosystems and important in recovery of the biological community. Under an uneven-aged silvicultural system, stands are managed with harvest methods and associated reforestation treatments that regenerate trees of multiple age classes that have three or more age classes within that stand. Most of the stands that are proposed for an even-aged or uneven-aged treatments have understory vegetation that interferes with the establishment of new seedlings; therefore, reforestation treatments are often required to provide adequate conditions for seedlings to germinate and grow.

The Allegheny National Forest is divided into geographic subdivisions known as compartments and then further divided into smaller units known as stands. The silvicultural methods and reforestation activities proposed for this project are summarized in the table below. Successful regeneration of the forested stands typically involves a combination of treatments implemented over a 6 to 20-year time period.

Summary of proposed activities

Even-aged Vegetation Management (acres)	
Commercial thinning	14
Shelterwood seed cut (1st entry)/shelterwood removal (2nd entry)	839
Overstory removal (1st entry)	18
Delayed overstory removal (2nd entry)	545
Two-aged Vegetation Management (acres)	
Two-aged seed cut (1st entry)/two-aged removal (2nd entry)	74
Two-aged removal (1st entry)	820
Delayed two-aged removal cut (2nd entry)	1,181
Uneven-aged Vegetation Management (acres)	
Non-commercial thinning	32
Single tree selection (1st entry)/group selection (2nd entry)	350
Understory Vegetation Treatments (acres)	
Herbicide–reforestation	3,808
Site preparation	3,808
Fence construction (optional)	885
Tree shelter installation (optional)	908
Tree planting for species diversity	930
Release for species diversity	3,808
Non-native invasive plant species treatments (herbicide and manual)	200
Wildlife Management	
Planting (acres)	21
Fencing (acres)	20
Structure installation (number)	30
Brush pile construction (number)	96
White pine release	35
Rehabilitate wildlife openings (acres)	15
Watershed Management (miles)	
Large wood introductions (place in streams - up to 160 trees/mile)	23.3
Travel Management (miles)	
Road construction – new corridor	1.2
Road construction – existing corridor	5.5
Road decommissioning	0.7
Road maintenance	41
High quality (limestone) road surfacing (within 300 feet of a stream)	11.2
Road management change from closed to open (forest road 218A)	0.5
Install new gates (forest roads 128L, 219, 218A (move), 223C, and 223D) (number)	5
Replace undersize culverts to provide for aquatic organism passage (number)	6

Timber Harvest Treatments

Seven timber harvest treatments are proposed for the project area and include:

- ***Non-commercial thinning*** is an improvement cut where poor quality, non-target species and poor vigor individuals are felled to improve the overall quality and health of a stand.

- ***Shelterwood seed cut/shelterwood removal*** is a multiple-step regeneration harvest in which approximately one-third of the overstory and midstory is removed in the initial shelterwood seed cut to provide sunlight on the ground to encourage tree seedling development. After adequate tree seedlings develop, the shelterwood removal cut follows, in which nearly all the overstory trees are removed, allowing full sunlight to reach the established seedlings.

- ***Overstory removal*** is a single step harvest that takes place after adequate tree seedlings develop. This activity removes nearly all the overstory trees, allowing full sunlight to reach the established seedlings.

- ***Two-aged seed cut / two-aged removal*** is a multiple-step partial regeneration harvest in which approximately one-third of the overstory is removed in the initial seed cut to provide sunlight on the ground to encourage tree seedling development. After adequate tree seedlings develop, the two- aged removal cut follows, in which all but 20-60 basal area per acre of the overstory trees are removed in a non-uniform manner. This creates both horizontal and vertical heterogeneity in the resulting stand.

- ***Two-aged overstory removal*** in a single step harvest after adequate tree seedlings develop, the two-aged shelterwood removal cut follows, in which all but 20-60 basal area per acre of the overstory trees are removed in a non-uniform manner. This creates both horizontal and vertical heterogeneity in the resulting stand.

- ***Commercial thinning*** treatments are designed to reduce overcrowding in overly stocked stands, thereby enhancing the growth and quality of the residual stand. No more than one-third of the trees are typically removed in a single thinning treatment.

- **G*roup selection to restore understory mature forest conditions*** is designed to accelerate the transition of even-aged hardwood stands to uneven-aged stands. It begins with a ***single-tree selection*** harvest in which approximately 30 to 40 percent of the trees are removed to increase light levels on the forest floor to promote the establishment of tree seedlings, shrubs, and herbaceous vegetation. A ***group-selection*** harvest is then implemented, typically within 3 to 15 years, to release the newly established seedlings. Group sizes range in size from one to three acres. Ideally, these treatments should be repeated every 20 to 40 years until the stand has been converted to a multi-aged condition.

Reforestation Activities

- ***Chemical site preparation (herbicide treatments)*** remove or reduce undesired understory vegetation in stands containing a dense ground cover of grasses, fern, beech root sprouts and striped maple that interfere with desired tree seedling establishment and growth. Herbicides approved for use by the Forest Plan, includes glyphosate–based products labeled for forestry use and sulfometuron methyl in the form of Oust®.

- ***Manual site preparation*** is used when mid-story trees and brush cast shade that interferes with the development of tree seedlings. Chainsaws or brush saws would be used to remove or reduce competing vegetation by felling mid-story non-preferred species to increase sunlight levels to the forest floor.

- Where deer browsing impacts are high, ***area fencing*** *and/or* ***tree shelters*** are installed and maintained to exclude deer and reduce browsing on desired seedlings. These methods allow for desirable tree seedlings to develop and grow to a competitive size and beyond the risk for deer browsing. Fences and tree shelters are removed when objectives have been met.

- ***Tree planting*** is prescribed in areas where planned natural regeneration has failed, or where it is desirable to supplement natural tree seedling establishment to improve species diversity.

- ***Release*** involves the non-commercial, manual cutting of woody vegetation that interferes with the growth and survival of desired tree seedlings, saplings, or shrubs in young stands (age class 20 years or less). Release promotes tree species diversity.

In some areas, proposed regeneration harvests would create temporary openings that will exceed 40 acres in size. Our analysis will examine the effects to vegetation and other resources from the proposed temporary openings greater than 40 acres. The resulting temporary openings larger than 40 acres would ensure adequate stocking levels in stands affected by declining health of black cherry, beech bark disease complex, and other forest health concerns. As with all proposed activities, Forest Plan standards and guidelines will be followed for temporary openings created by the application of even-aged silviculture (USDA-FS 2007, page 68). The proposal to create these large openings will receive Regional Forester review and concurrence. Proposed harvest treatments would be staggered over time so that less than 25 percent of any small watershed area would be in the zero to 5-year age class at any given time.

The following list shows the combination of stands that when treated, would result in openings (areas or blocks) over 40 acres in size (please see map 7 for their locations).

Temporary blocks over 40 acres in size

Block	Stands	Total Acres
A	653038, 653040, 653104, 653105, (653106), (653107)	153
B	653016, 653044, 653102	109
C	653020	43
D	653014, 653092, 653116	42
E	653050, 653051, 653101, 653117, 676023, 676024, 676025 (653052), (653099),	194
F	652005, 652006, 652007, 652008, 652077, 676013, 676019, 676028, 676030, 676051, 676053, 676054, 676055, 676056, 676059, 676067	350
G	651011, 651013, 651016, 651020, 651021, 651029, 651030, 651031, 651032, 651033, 651036, 651068, 651070, 651076, 651084, (651019), (651073)	290
H	651007, 651010, 651046, 651050	139
I	650037, 650110	57
J	675041, 675042, 675043, 675044, 675048, 675066	74
K	675045, 675050, (675067)	80
L	650040, 650041, 650114, (650113)	102
M	685005	67
N	685008	85
O	675015, 675019, 675021, 675082, 675104, [657016]	141
P	689002, 689003, 689004, 689016, 689026, 689034	131
Q	688011, 688016, 688030, (689001)	90
R	687002, 687004, 687046, 687047, 688004, 688008, 688009, 688044, 688048, 688049, 688054, (687003), (688006), (688036)	347
S	653048	45
T	653030, 653065, 653066, 653073	126
U	652034, 652035	119
V	652021, 652024, 652026, 652030, 652031, 652032, 652058, 652065, 652067, 652083, 652084, 653089, 653090, [652062]	291
W	652022, 652046, 652075	64

Note: Stands without parentheses or brackets are proposed for regeneration harvest in the Deadman Corners project. Stands in ( ) are stands that were approved for regeneration harvest in other projects and have recently been cut. Stands in [ ] are stands that with were approved for regeneration harvest in other projects but have not been cut yet.

Blocks will be smaller than the acreages listed due to protected areas within individual stands. Protected areas will also be used so that blocks that appear to be touching on map 7 are not adjacent during implementation.

Acronyms and abbreviations used in proposed silvicultural treatments table below

Objective

Grn = Green (emphasis on standing live trees)
Salv = Salvage (emphasis on salvage dying, diseased, or dead trees)
TSI = Timber Stand Improvement activaties (TSI activities include release)
Refor = Reforestation (reforestation activities – including herbicide, site preparation, fertilizer, fencing, and planting; no timber harvesting)

Silvicultural Treatments (1st Entry, 2nd Entry)

STS	*Single Tree Selection*
GS	*Group Selection*
SWC	*Shelterwood Seed Cut*
SWR	*Shelterwood Removal*
TSC	*Two-age Shelterwood Seed Cut*
TSR	*Two-age Shelterwood Removal*
OR	*Overstory Removal*
THIN	*Commercial Thin*
NCT	*Non-Commercial Thinning*
CTR	*Release for Species Diversity*

Note: The six-digit stand number listed in this table consists of the compartment number (first three digits) and the stand number (last three digits). For example, stand 636001 is stand 1 in compartment 636.

Proposed silvicultural treatments

Stand	Objective	Management Area	Acres	1st Entry Proposed Treatment	2nd Entry Proposed Treatment	Herbicide	Site Preparation	Fence	Tree Shelters	Planting	Release
648038	TSI	3.0	44	CTR	-	44	44	-	-	-	44
650037	Salv	3.0	36	-	TSR	36	36	36	9	9	36
650038	TSI	3.0	30	CTR	-	30	30	-	-	-	30
650040	Salv	3.0	22	-	TSR	22	22	22	6	6	22
650041	Salv	3.0	28	-	TSR	28	28	28	7	7	28
650046	Salv	3.0	35	-	TSR	35	35	35	9	9	35
650110	Salv	3.0	21	-	OR	21	21	21	5	5	21
650114	Salv	3.0	30	-	TSR	30	30	30	7	7	30
651007	Salv	3.0	10	SWC	SWR	11	11	11	3	3	11
651010	Salv	3.0	35	SWC	SWR	35	35	35	9	9	35
651011	Salv	3.0	16	-	TSR	16	16	16	4	4	16
651013	Salv	3.0	33	-	TSR	33	33	33	8	8	33
651016	Salv	3.0	12	SWC	SWR	12	12	12	3	3	12
651020	Salv	3.0	41	-	TSR	41	41	41	10	10	41
651021	Salv	3.0	13	-	TSR	13	13	13	3	3	13

Stand	Objective	Management Area	Acres	1st Entry Proposed Treatment	2nd Entry Proposed Treatment	Herbicide	Site Preparation	Fence	Tree Shelters	Planting	Release
651029	Salv	3.0	16	-	TSR	16	16	16	4	4	16
651030	Salv	3.0	18	-	OR	18	18	18	4	4	18
651031	Salv	3.0	12	-	TSR	12	12	12	3	3	12
651032	Salv	3.0	15	TSR	-	15	15	15	4	4	15
651033	Salv	3.0	26	TSR	-	26	26	26	6	6	26
651036	Salv	3.0	18	OR	-	18	18	18	4	4	18
651046	Salv	3.0	52	TSR	-	52	52	52	13	13	52
651050	Salv	3.0	43	TSR	-	43	43	43	11	11	43
651068	Salv	3.0	15	TSR	-	15	15	15	4	4	15
651070	Salv	3.0	13	-	TSR	13	13	13	3	3	13
651076	Salv	3.0	5	SWC	SWR	5	5	5	1	1	5
651084	Salv	3.0	11	-	OR	11	11	11	3	3	11
652001	Salv	2.2	54	STS	GS	54	54	54	13	13	54
652005	Salv	3.0	20	-	OR	20	20	20	5	5	20
652006	Salv	3.0	42	-	OR	42	42	42	11	11	42
652007	Salv	3.0	24	TSR	-	24	24	24	6	6	24
652008	Salv	3.0	63	-	TSR	63	63	63	16	16	63
652012	TSI	3.0	20	CTR	-	20	20	-	-	-	20
652013	TSI	3.0	31	CTR	-	31	31	-	-	-	31
652021	Salv	3.0	17	-	TSR	17	17	17	4	4	17
652022	Salv	3.0	35	TSR	-	35	35	35	9	9	35
652024	Salv	3.0	36	SWC	SWR	36	36	36	9	9	36
652030	Salv	3.0	13	TSR	-	13	13	13	3	3	13
652031	Salv	3.0	13	TSR	-	13	13	13	3	3	13
652032	Salv	3.0	12	TSR	-	12	12	12	3	3	12
652033	TSI	3.0	22	CTR	-	22	22	-	-	-	22
652034	Salv	3.0	80	TSR	-	80	80	80	20	20	80
652035	Salv	3.0	39	TSR	-	39	39	39	10	10	39
652046	Salv	3.0	14	-	OR	14	14	14	4	4	14
652054	Salv	2.2	30	STS	GS	30	30	30	7	7	30
652055	Salv	2.2	41	STS	GS	41	41	41	10	10	41
652057	Salv	3.0	14	NCT	OR	14	14	14	4	4	14
652058	Salv	3.0	62	-	OR	62	62	62	15	15	62
652065	Salv	3.0	27	SWC	SWR	27	27	27	7	7	27
652067	Salv	3.0	23	TSR	-	23	23	23	6	6	23
652075	Salv	3.0	15	TSR	-	15	15	15	4	4	15

Stand	Objective	Management Area	Acres	1st Entry Proposed Treatment	2nd Entry Proposed Treatment	Herbicide	Site Preparation	Fence	Tree Shelters	Planting	Release
652077	Salv	3.0	17	-	OR	17	17	17	4	4	17
652083	Salv	3.0	45	-	OR	45	45	45	11	11	45
652084	Salv	3.0	19	-	OR	19	19	19	5	5	19
653008	TSI	3.0	19	CTR	-	19	19	-	-	-	19
653014	Salv	3.0	12	TSR	-	12	12	12	3	3	12
653016	Salv	3.0	25	TSR	-	25	25	25	6	6	25
653020	Salv	3.0	43	-	TSR	43	43	43	11	11	43
653022	Grn	3.0	14	THIN	-	14	14	14	3	3	14
653027	TSI	3.0	32	CTR	-	32	32	-	-	-	32
653030	Salv	3.0	21	SWC	SWR	21	21	21	5	5	21
653038	Salv	3.0	30	-	TSR	30	30	30	7	7	30
653040	Salv	3.0	22	SWC	SWR	22	22	22	6	6	22
653044	Salv	3.0	64	-	TSR	64	64	64	16	16	64
653048	Salv	3.0	45	SWC	SWR	45	45	45	11	11	45
653050	Salv	3.0	30	SWC	SWR	30	30	30	0	22	30
653051	Salv	3.0	20	SWC	SWR	20	20	20	5	5	20
653055	Salv	2.2	35	STS	GS	35	35	35	9	9	35
653065	Salv	3.0	25	-	OR	25	25	25	6	6	25
653066	Salv	3.0	43	TSR	-	43	43	43	11	11	43
653073	Salv	3.0	36	TSR	-	36	36	36	9	9	36
653076	Salv	2.2	19	-	TSR	19	19	19	5	5	19
653089	Salv	3.0	13	SWC	SWR	13	13	13	3	3	13
653090	Salv	3.0	6	SWC	SWR	6	6	6	1	1	6
653091	Salv	3.0	23	TSR	-	23	23	23	6	6	23
653092	Salv	3.0	12	-	OR	12	12	12	3	3	12
653101	Salv	3.0	18	TSR	-	18	18	18	5	5	18
653102	Salv	3.0	21	TSR	-	21	21	21	5	5	21
653104	Salv	3.0	24	TSR	-	24	24	24	6	6	24
653105	Salv	3.0	22	-	OR	22	22	22	5	5	22
653112	Salv	3.0	15	TSR	-	15	15	15	4	4	15
653116	Salv	3.0	18	TSR	-	18	18	18	4	4	18
653117	Salv	3.0	27	TSR	-	27	27	27	7	7	27
675015	Salv	3.0	36	-	TSR	36	36	36	9	9	36
675019	Salv	3.0	31	-	TSR	31	31	31	8	8	31
675021	Salv	3.0	17	SWC	SWR	17	17	17	4	4	17
675041	Salv	3.0	4	-	OR	4	4	4	1	1	4

Stand	Objective	Management Area	Acres	1st Entry Proposed Treatment	2nd Entry Proposed Treatment	Herbicide	Site Preparation	Fence	Tree Shelters	Planting	Release
675042	Salv	3.0	19	TSR	-	19	19	19	5	5	19
675043	Salv	3.0	18	-	OR	18	18	18	5	5	18
675044	Salv	3.0	23	TSR	-	23	23	23	6	6	23
675045	Salv	3.0	22	TSR	-	22	22	22	6	6	22
675048	Salv	3.0	4	-	OR	4	4	4	1	1	4
675050	Salv	3.0	23	-	TSR	23	23	23	6	6	23
675064	Salv	3.0	31	-	OR	31	31	31	8	8	31
675066	Salv	3.0	4	-	TSR	4	4	4	1	1	4
675082	Salv	3.0	21	SWC	SWR	21	21	21	5	5	21
675104	Salv	3.0	6	-	TSR	6	6	6	1	1	6
676005	Salv	3.0	26	-	OR	26	26	26	6	6	26
676011	Salv	2.2	22	-	TSR	22	22	22	6	6	22
676012	Salv	2.2	34	STS	GS	34	34	34	8	8	34
676013	Salv	3.0	15	SWC	SWR	15	15	15	4	4	15
676016	Salv	2.2	14	-	TSR	14	14	14	4	4	14
676017	Salv	2.2	3	STS	GS	3	3	3	1	1	3
676019	Salv	3.0	16	-	TSR	16	16	16	4	4	16
676021	Salv	3.0	4	-	TSR	4	4	4	1	1	4
676023	Salv	3.0	18	SWC	SWR	18	18	18	4	4	18
676024	Salv	3.0	11	SWC	SWR	11	11	11	3	3	11
676025	Salv	3.0	34	TSR	-	34	34	34	9	9	34
676028	Salv	3.0	15	-	TSR	15	15	15	4	4	15
676030	Salv	3.0	38	-	TSR	38	38	38	9	9	38
676031	Salv	2.2	23	STS	GS	23	23	23	6	6	23
676034	Salv	2.2	10	STS	GS	10	10	10	2	2	10
676046	Salv	2.2	13	STS	GS	13	13	13	3	3	13
676050	Salv	2.2	9	STS	GS	9	9	9	2	2	9
676051	Salv	3.0	13	TSR	-	13	13	13	3	3	13
676053	Salv	3.0	26	TSR	-	26	26	26	7	7	26
676054	Salv	2.2	15	TSR	-	15	15	15	4	4	15
676055	Salv	2.2	14	-	TSR	14	14	14	3	3	14
676056	Salv	3.0	12	-	OR	12	12	12	3	3	12
676058	Salv	2.2	7	STS	GS	7	7	7	2	2	7
676059	Salv	3.0	17	-	OR	17	17	17	4	4	17
676066	Salv	2.2	9	STS	GS	9	9	9	2	2	9
676067	Salv	3.0	10	-	OR	10	10	10	3	3	10

Stand	Objective	Management Area	Acres	1st Entry Proposed Treatment	2nd Entry Proposed Treatment	Herbicide	Site Preparation	Fence	Tree Shelters	Planting	Release
685005	Salv	3.0	67	-	TSR	67	67	67	17	17	67
685008	Salv	3.0	85	-	TSR	85	85	85	21	21	85
685010	TSI	3.0	39	CTR	-	39	39	-	10	10	39
687002	Salv	3.0	30	SWC	SWR	30	30	30	8	8	30
687003	TSI	3.0	15	CTR	-	15	15	-	4	4	15
687004	Salv	3.0	18	NCT	OR	18	18	18	4	4	18
687019	Salv	2.2	7	STS	GS	7	7	7	2	2	7
687020	Salv	2.2	14	TSC	TSR	14	14	14	3	3	14
687028	Refor	2.2	17	-	-	17	17	17	17	17	17
687029	Salv	2.2	9	SWC	SWR	9	9	9	2	2	9
687040	TSI	2.2	17	CTR	-	17	17	-	4	4	17
687046	Salv	3.0	35	-	TSR	35	35	35	9	9	35
687047	Salv	3.0	20	-	TSR	20	20	20	5	5	20
688002	Salv	3.0	22	-	TSR	22	22	22	5	5	22
688004	Salv	3.0	23	-	TSR	23	23	23	6	6	23
688008	Salv	3.0	38	-	TSR	38	38	38	9	9	38
688009	Salv	3.0	60	TSC	TSR	60	60	60	15	15	60
688011	Salv	3.0	33	-	OR	33	33	33	8	8	33
688016	Salv	3.0	34	-	OR	34	34	34	8	8	34
688018	Salv	2.2	17	STS	GS	17	17	17	4	4	17
688019	Salv	3.0	9	-	OR	9	9	9	2	2	9
688026	Salv	2.2	35	STS	GS	35	35	35	9	9	35
688030	Salv	3.0	23	SWC	SWR	23	23	23	6	6	23
688032	Salv	2.2	25	STS	GS	25	25	25	6	6	25
688044	Salv	3.0	17	-	TSR	17	17	17	4	4	17
688048	Salv	3.0	21	SWC	SWR	21	21	21	5	5	21
688049	Salv	3.0	7	-	TSR	7	7	7	2	2	7
688054	Salv	3.0	19	SWC	SWR	19	19	19	5	5	19
689002	Salv	3.0	13	SWC	SWR	13	13	13	3	3	13
689003	Salv	3.0	30	-	OR	30	30	30	7	7	30
689004	Salv	3.0	21	-	TSR	21	21	21	5	5	21
689013	Salv	3.0	16	-	TSR	16	16	16	4	4	16
689016	Salv	3.0	15	-	TSR	15	15	15	4	4	15
689026	Salv	3.0	9	SWC	SWR	9	9	9	2	2	9
689034	Salv	3.0	16	-	TSR	16	16	16	4	4	16

Non-native Invasive Plant Treatments

Eight non-native invasive plant species of concern for the Allegheny National Forest[5] have been documented along roads, streams, and within stands and stone pits in the project area. Non-native invasive plant treatments are proposed on approximately 200 acres of the project area using a combination of manual, mechanical, and herbicide treatments. Manual treatment could include pulling, digging, or hand-roughing. Mechanical treatment would include brush-cutting, mowing, or removal by motorized equipment. Herbicide treatment would include the use of glyphosate and would be applied in accordance with Forest Plan standards and guidelines. These combinations of treatments could occur several times during a growing season, or over a period of several years until the infestations have been effectively treated. Due to the nature of non-native invasive plants, additional infestations and species from the Allegheny National Forest invasive plant species of concern list could be treated if found within the project area, consistent with applicable Forest Plan direction.

Wildlife Habitat Enhancements

The project area can support a diversity of soft and hard mast producing trees and shrubs. Proposed wildlife habitat enhancements would focus on establishing mid-story and understory soft and hard mast-producing species in suitable areas for wildlife species that utilize mast. The proposed activities will supplement reforestation treatments by establishing trees and shrubs that are desirable to wildlife. The proposed plantings would not convert sites to a different vegetation type but would help these tree and shrub species to become established and flourish without further intervention.

- ***Planting*** 21 acres with native mast-producing trees and shrubs is proposed to provide future forage and cover for a variety of wildlife species.
- Installing ***fencing, cribs, or tree shelters*** is being proposed for 20 acres to protect planted trees and shrubs from deer browsing.
- Installing 30 ***wildlife structures*** (man-made) is proposed to provide nesting and roosting opportunities for cavity dwellers and other wildlife.
- ***Rehabilitating*** approximately 15 acres of wildlife openings. Rehabilitation activities may consist of herbicide application, bulldozing, lime application, fertilizer application, seeding, plowing, disking, and tilling.
- Constructing 96 ***brush piles*** is proposed across the project area. Field surveys conducted in the project area revealed a general lack of structure on the forest floor aside from widely scattered windthrown trees and large boulders. Proposed brush piles would increase the amount of escape and concealment cover for a variety of wildlife species in forested stands which, aside from the dense fern cover in summer, lack ground cover conducive to wildlife concealment on the forest floor.

[5] **Japanese knotweed (***Polygonum cuspidatum),* **Common tansy** *(Tanacetum vulgare),* **Narrow-leaved cattail** *(Typha angustifolia),* **Multiflora rose** *(Rosa multiflora),* **Autumn olive** *(Elaeagnus umbellate),* **Glossy buckthorn** *(Frangula* a*lnus),* **Common reed** *(Phragmites australis) and* **Japanese barberry** *(Berberis thunbergii).*

Proposed wildlife habitat improvements

Stand	Plant (acres)	Fence (acres)	Install Structures (number)	White Pine Release (acres)	Brush Piles (number)	Opening Rehabilitation (acres)
650045					6	
650046	1	1	2			
650084			5		6	3.0
651027			1			
651038	2	2				1.1
651053						1.5
651057					6	
651060						2.7
651080						0.6
652003					6	
652022	1	1				
652063						2.1
652066	1	1				
652071	1	1				
652080					6	
653014					6	
653046			5			3.0
653048					6	
653066					6	
653102	2	2	3			
653112					6	
653116					6	
675039					6	
676039					6	
676045	3	3	5			
676055	1	1				
676057					6	
676062						1.4
676064					6	
676066	1					
687032					6	
687052	2	2				
688007	4	4	5		6	
688026				35		
688033			2			
688034			2			
689019	2	2				
Totals	**21**	**20**	**30**		**96**	**15.4**

Aquatic Habitat and Water Quality Treatments

***Aquatic habitat treatments*:** In order to improve stream function and create aquatic habitat, large wood structures would be added to streams and floodplains within the project area. These structures divert excess streamflow onto the floodplain which in turn increases groundwater infiltration, buffers against high flows, and decreases the risk of downstream flood damage. The structures also alter flow patterns, creating pools that provide critical resting places for fish.

This project proposes to fell up to 160 trees per mile into streams and floodplains (see map 6). Trees would be felled within the riparian area where large woody debris is lacking in streams, and trees are available to be felled without significantly reducing stream shading or bank stability. Trees will be arranged in structures that are stable in the stream and floodplain.

This project also proposes to retrofit a culvert to improve aquatic organism passage, where forest road 222 crosses an unnamed tributary to Bluejay Creek (see map 6). The culvert at this crossing is a corrugated metal pipe arch in good condition. However, there is a drop from the culvert outlet to the stream that restricts passage for most fish and aquatic species. To address this, grade control structures would be constructed of rock and logs and placed within 50 feet of the culvert outlet. These grade controls would raise the water level eliminating the outlet drop and keeping streambed material within the culvert.

Proposed aquatic habitat treatments locations

Treatment	Stream Miles
Level 1 - Fell trees into streams.	19.5
Level 2 - A combination of felling trees into streams and moving the logs and tops with a grip hoist/other equipment to build stable structures in the stream.	3.5
Level 3 – Uprooting trees using a grip hoist or winch	0.3
Level 3 – Excavator: Install bank stabilization structure	150 feet
Retrofit aquatic organism passage culvert at stream crossing on forest road 222	50 feet
Total	**23.3**

Recreation Improvements

There are no developed facilities, no viewpoints, and very few dispersed campsites, none of which need improvement, within the project area. Therefore, we are not proposing any recreational improvements with the Deadman Corners project area. All snowmobile trails within the project area are located on existing roads (Abraxas Road, Job Corps Road, forest road 221, forest road 221B) and the Penoke Bike Trail east of Blue Jay Road [abandoned railroad grade]). The proposed Marienville ATV Connector trail will cross the southern portion of the project area when it is constructed.

Transportation Management

The project area contains approximately 170 miles of roads – 44 miles of National Forest System roads, 15 miles of State and Township roads, 111 miles of non-system roads, primarily oil and gas access roads. The National Forest System roads are managed for public motor vehicle use as follows: 5 miles are open year-round, 19 miles are seasonally restricted, and 20 miles are closed year around. The project area contains 11 miles of mixed-use roads (roads being used as both roads and trails; 4.5 miles of forest roads and 6.5 miles of municipal roads), includes 0.3 miles of the Penoke Off-Highway Motorcycle Trail and 10.7 miles of the Allegheny Snowmobile Loop and connectors.

A safe and efficient transportation system is critical in meeting the diverse needs of the public and managers of the Allegheny National Forest. As a result of the transportation analysis process mandated by Subpart A of the Travel Management Rule, recommendations found in the Salmon Creek (2015) and Sheffield Junction (2105) Travel Analysis Projects, identify the most ecologically, economically and socially sustainable transportation system in terms of access for recreation, research and other land management activities. The Salmon Creek and Sheffield Junction Travel Analysis Projects include

recommendations within the Deadman Corners Project planning area. This project will consider, analyze, and make a decision considering those recommendations.

Management of the transportation system within the project area is needed to facilitate stands proposed for vegetation management over the life of the project. Approximately 6.7 miles of roads are proposed to be added to the Forest Service transportation system. Approximately 5.5 mile are existing non-system roads (not municipal or part of the National Forest Service Road system) and approximately 1.2 miles involve road construction using new corridors. Decommissioning (full obliteration) is proposed for forest road 223B (0.7 miles) because it is not needed for current and future management of National Forest System lands. High quality road surfacing (limestone) is proposed for approximately 11.2 miles of road in areas adjacent to or near stream courses to reduce the risk of sedimentation. Six existing undersized culverts are proposed for replacement with properly sized culverts to allow for aquatic organism passage (see map 5). Approximately 0.5 miles of forest road 218A (from the intersection with forest road 218 to the intersection with forest road 214) are being proposed to be changed from "closed" to "open" to provide access for hunting.

Transportation proposals

Road Activity	**Total Mileage**	**Proposed/Existing Road Numbers (Miles)**			
Road construction – new corridor[1]	1.2	128J extension	0.2		
		221E	0.4		
		286 extension	0.6		
Add existing non-system road corridor to the National Forest Transportation System (which may involve road reconstruction, construction, or realignment)[1]	5.5	128J extension	0.2		
		128L	0.1		
		128M	0.1		
		128N	0.2		
		217B	0.3		
		218C	0.4		
		219F	1.7		
		219FA	0.4		
		220A extension	0.3		
		221D	0.6		
		221E	0.3		
		223C	0.2		
		223D	0.4		
		286 extension	0.3		
Road decommissioning	0.7	223B	0.7		
Road maintenance on potential timber haul roads	41	Various National Forest System roads			
New gate installation	5 gates	128L, 218A (move), 219, 223C, and 223D			
Replace undersized culverts to provide for aquatic organism passage	6	219 (2), 221, 286, 375B, 683			
Road management changes	2.5	Road Number	Existing Status	Proposed Status	Miles
		218A	Closed	Open	0.5

Road Activity	Total Mileage	Proposed[1]/Existing Road Numbers (Miles)	
High quality road surfacing	11.2	128G	0.1
		128I	0.4
		217	0.5
		217C	0.1
		218	0.3
		219	0.8
		220	0.1
		221C	0.1
		Proposed 221D	0.5
		222	1.7
		222D	0.1
		223	1.3
		286	0.4
		375	2.3
		375A	0.4
		375Aa	0.1
		375B	0.1
		389	0.1
		392	0.7
		392A	0.1
		683	1.0

There are currently no unroaded areas greater than 500 acres within the project area. The Rock Run Spring Unroaded Area (#59) identified in the Forest-wide Roads Analysis Process (2003) lies within the Deadman Corners project area. The unroaded area has been reduced in size from 567 acres to approximately 435 acres by recent private oil and gas development (see Map 1); and the Penoke Bike Trail, which is also part of the snowmobile trail system and the route of the proposed Marienville ATV Connector Trail, bisects this unroaded area. Proposed road construction (forest road 286 extension) would further reduce the size of this unroaded area; however, the unroaded nature of this area has already been diminished by existing use and private oil and gas development, and the benefits normally realized in an unroaded area have already been compromised. The proposed road construction would provide a stable access for three stands proposed for active management to restore healthy forest vegetation, with the benefit of restoring a more sustainable forest cover potentially outweighing the impact to an already diminished unroaded area.

How does the project implement the Forest Plan?

Management Direction

The Forest Plan provides a programmatic framework regarding allocation of National Forest System lands and the measures necessary to protect resources. It describes how the Allegheny National Forest should be managed and what resources should be provided by these lands now and into the future. The Forest Plan provides a vision (USDA-FS 2007, pages 7–16) that includes a diversity of vegetative structural stages and age classes, restoration of understory vegetation and vertical diversity. Proposed

activities are consistent with management direction in the Forest Plan. Specifically, the proposed action addresses the following Forest Plan goals and objectives (USDA-FS 2007, pages 12–21):

- Develop and enhance the seedling, shrub, and herbaceous diversity to improve structural conditions (USDA-FS 2007, pages. 14, 19, A-1, A-2, and A-14). Provide a diversity of vegetation patterns across the landscape that represents well distributed habitats, a range of forest age classes and vegetative stages, a variety of healthy functioning vegetation layers, moderate to well-stocked forest cover, and the variety of vegetation species or forest types necessary to achieve multiple resource objectives and sustain ecosystem health (USDA-FS 2007, page 14).

- Continue to implement and monitor a range of silvicultural and reforestation practices in order to be responsive to emerging issues and regenerate stands to a diversity of tree seedlings of good quality, form, and health (USDA-FS 2007, page 14).

- Improve the overall health and sustainability of Allegheny National Forest ecosystems by reducing understory dominance of native invasive species such as beech brush, ferns, grass and striped maple, and non-native invasive species on 3,000 to 6,200 acres annually. Do this through direct treatments: site preparation, herbicide application, scarification, mechanical treatment, or fencing to encourage greater species diversity with a wider variety of herbaceous and woody plants or tree seedlings (USDA-FS 2007, page 21).

- Restore stream processes and aquatic habitat diversity and connectivity for brook trout and other headwater stream fishes (USDA-2007, pages 14, 20, 22, 46, and 80).

- Provide a long-term, sustainable supply of large wood from riparian corridors to streams for aquatic habitat diversity; with an objective of 75 to 380 pieces per stream mile (USDA-FS 2007, page 11).

- Provide a safe, efficient and economical transportation system that is responsive to public and administrative needs, while having minimal adverse effects on the natural forest ecosystem (USDA-FS 2007, page 16).

- Limit the further introduction and spread of non-native invasive plants and conserve forest resources in a manner that presents the least hazard to humans and maintains and restores forest resources (USDA-FS 2007, page13).

- Provide a sustainable flow of commercial timber products that will contribute to the local and regional economy, contribute to the annual forest-wide allowable sale quantity, and maintain 10 to 12 percent of MA 3.0 in early structural habitat (0 to 20 years old) over time (USDA-FS 2007, pages 8, 14, and 113).

Management Area Direction

Lands managed by the Allegheny National Forest are assigned a management area designation. This designation identified the suitable uses, desired conditions, and standards and guidelines for forest management. The project includes the following management areas:

Management Area 2.2 – Late Structural Linkages emphasizes older, late structural forests that link relatively large areas of older forests (core areas) across the landscape. Vegetation management is directed to restoring late structural forest conditions with an emphasis on sustaining forest structure and forest continuity. Management Area direction is provided on pages 109–112 of the Forest Plan.

Management Area 3.0 – Even-aged Management emphasizes even-aged management to provide a forest that is a mix of predominantly shade intolerant and mid-tolerant hardwood stands of various ages and associated understories and habitat for a diversity of plant and animal species. Management Area direction can be found on pages 113–115 of the Forest Plan.

The acres within each management area in the Deadman Corners Project are listed in the table below and shown on map 1.

Acre distribution within project area

Management Area	Acres
2.2 – Late Structural Linkages	4,467
3.0 – Even-aged Management	10.751
Private lands	2,796
Total	**18,014**

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